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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/805,214

03/22/2004

Tsuyoshi Nakamura

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EXAMINER

GREENHUT, CHARLES N

ART UNIT

PAPER NUMBER

3652

MAIL DATE

DELIVERY MODE

09/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/805,214	NAKAMURA ET AL.	
	Examiner	Art Unit	
	Charles N. Greenhut	3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

I. Appeal Brief

1. In view of the Appeal Brief filed on 5/31/07, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

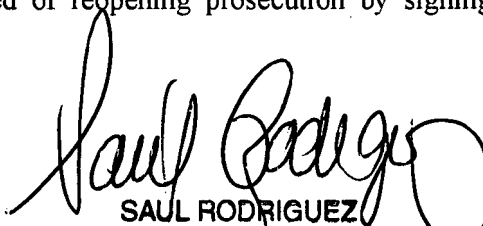
To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37.

The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

2. A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:


SAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER

II. Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim(s) 1 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over SELYUTIN (US 6,120,609 A) in view of ZHAO (US 5,558,717 A-Incorporated into SELYUTIN) further in view of POLLOCK (US 4,726,689 A).

1.1. With respect to claim 1, with reference to figures 10-22 of SELYUTIN wherein additional elements are depicted in Fig. 3 and 7-8 of ZHAO, SELYUTIN and ZHAO disclose a casing (SELYUTIN-38/ZHAO-134), having an opening (ZHAO-142), and a process chamber (ZHAO-141), table (SELYUTIN-22/ZHAO-136) in the process chamber (ZHAO-Fig. 1/SELYUTIN-Fig. 10), connecting portion (SELYUTIN-32), moving portion (SELYUTIN-238) connected to said connecting portion (SELYUTIN-32) outside the process chamber (SELYUTIN-Fig. 10/ZHAO-Fig. 3), base (ZHAO-249/unitary with support SELYUTIN-230), supporting the moving portion (SELYUTIN-238) movably (via SELYUTIN-232), adjusting support (ZHAO-247) supporting the base (ZHAO-249/SELYUTIN-230) and casing (SELYUTIN-38/ZHAO-134) in a relatively displacing manner capable of holding a clearance between the base and casing constant. SELYUTIN additionally discloses a seal (SELYUTIN-contained in 206) between the casing (SELYUTIN-38) and moving portion (SELYUTIN-238). SELYUTIN fails to disclose a differential pumping seal. POLLOCK teaches a differential pumping seal is known in the art (Col 1. Li. 16 et seq.). It would have been obvious to one of ordinary skill in the art to modify SELYUTIN in view of ZHAO with the differential pumping seal of POLLOCK in order to provide low friction, low particulates, low noise, and high stiffness guidance

to a substrate support shaft while maintaining a high differential pressure between the evacuated process chamber and the ambient environment which surrounds it.

2. Claim(s) 2-4, and 6-9 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over SELYUTIN in view of ZHAO in view of POLLOCK and further in view of KOBAYASHI (US 5,073,912 A).

2.1. With respect to claim(s) 2-4, and 6-9, in SELYUTIN and ZHAO the adjusting supports are interposed between the base (ZHAO-249/SELYUTIN-230) and casing (SELYUTIN-38/ZHAO-134). It is well-known in the art, however, that adjusting support mechanisms may be interposed between a surface plate and a table base as demonstrated, for example, by KOBAYASHI. KOBAYASHI discloses a base (1) placed on a surface plate (7) through adjusting support mechanisms (6). It would have been obvious to one having ordinary skill in the art to rearrange the adjusting support mechanisms of SELYUTIN and ZHAO in view of POLLOCK by placing them between a base supporting the casing and a surface plate as suggested by KOBAYASHI in order to accurately position the base relative to a reference surface. SELYUTIN and ZHAO additionally disclose the base (ZHAO-249/SELYUTIN-230) supported at three points (ZHAO-Fig. 9) by the adjusting support (ZHAO-247), which suppresses relative movement (via nuts) between the casing (SELYUTIN-38/ZHAO-134), and base (ZHAO-249/SELYUTIN-230) absent power, first opening (SELYUTIN-bottom of 38), seal plate (SELYUTIN-204) having a second opening (SELYUTIN-of ring 204) the connecting portion (SELYUTIN-32) extending therethrough, and an O-ring (SELYUTIN-Col. 8 Li. 23-24) between the process

chamber casing (SELYUTIN-38/ZHAO-134), and seal plate (SELYUTIN-204) to close the first and second openings. KOBAYASHI additionally demonstrates that it is well-known to provide a fine (3) and coarse (2) adjustment, and an electric drive source in an adjusting support. It would have been obvious to one of ordinary skill in the art to modify SELYUTIN in view of ZHAO in view of POLLOCK with the fine and coarse adjusting portions of KOBAYASHI in order to allow both efficient and accurate positional adjustments.

3. Claim(s) 5 is/are rejected under 35 U.S.C. 103(a) as being unpatentable over SELYUTIN in view of ZHAO in view of POLLOCK and further in view of MCDONALD (US 2,908,472 A)

3.1. With respect to claim 5, SELYUTIN employs a screw drive as opposed to a hydraulic drive. Hydraulic drives are well known in the art, for example, MCDONALD teaches a hydraulic drive source (Fig. 1). It would have been obvious to one of ordinary skill in the art to modify SELYUTIN in view of ZHAO in view of POLLOCK with the hydraulic drive of MCDONALD in order to actuate the adjusting mechanisms.

III. Response to Applicant's Arguments

Applicant's arguments entered 5/31/07 have been fully considered but are moot in light of the new grounds for rejection presented herein.


IV. Conclusion

1. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Art Unit: 3652

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles N. Greenhut whose telephone number is (571) 272-1517. The examiner can normally be reached on 7:30am - 4:00pm EST.
3. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached at (571) 272-7097. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.
4. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CG



SAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER